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HONEYWELL INTERNATIONAL INC
101 Columbia Road
Law Dept. AB2
Morristown, NJ 07962

EXAMINER	
GODDARD, BRIAN D	
ART UNIT	PAPER NUMBER

2171

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12

Please find below and/or attached an Office communication concerning this application or proceeding.

5

Office Action Summary

Application No.

09/661,674

Applicant(s)

SNYDER ET AL.

Examiner

Brian Goddard

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This communication is responsive to the Amendment filed January 29, 2003.
2. Claims 1-10 are pending in this application following the Amendment. Claims 1, 2 and 10 are independent claims. In the Amendment, claims 3-10 were added, and claims 1 and 2 were amended. This action is non-final.

Election/Restrictions

3. Newly submitted claim 10 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claim 10 is drawn to a method of terrain paging for preparing data in a display list for display, classified in class 345, subclass 553.

The originally claimed invention is drawn to a method of database manipulation for displaying navigational data associated with an aircraft classified in class 707, subclass 100.

The originally claimed invention and the new invention of claim 10 are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because another method of terrain paging could be used to prepare the data for

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display. The subcombination has separate utility such as use in a larger processing scheme outside of aircraft systems.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and the search required for the new invention of claim 10 is not required for the originally claimed invention, restriction for examination purposes as indicated is proper.

4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 10 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

5. The corrected or substitute drawings were received on January 29, 2003. These drawings are acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,453,235 to Endo et al.

Referring to claim 1, Endo discloses a system and method for aircraft navigation as claimed. See Figures 1, 4 & 11-12 and the corresponding portions of Endo's specification for this disclosure. In particular, Endo teaches "a method for navigational data associated with an aircraft¹, said method comprising the steps of:

providing a database ['map data base' on CD-ROM 4 (See column 8, lines 27-43)] including navigational data [map data] and flight planning data [guide route];

projecting and culling [12 & 13] said database in real time in accordance with a defined map region [See column 9, lines 41-55];

creating a projected display database [VRAM 14];

modifying [Image Synthesis (26) of 23-25 & 27] said display database in accordance with avionics data [position & heading] associated with said aircraft [See columns 10-12]; and

displaying [on Display Unit 3] said display database in accordance with said modifying step [See column 10, lines 22-40]."

Referring to claim 2, the system and method of Endo as discussed above with regard to claim 1 discloses the invention as claimed. Again, see Figures 1, 4 & 11-12 and the corresponding portions of Endo's specification for this disclosure. In particular, Endo teaches "a display system comprising:

¹ The examiner interprets Endo's "vehicle" as a hovercraft (or any other low-flying vehicle such as a helicopter) because the intended use of Endo's navigation apparatus is for any vehicle navigating relative to a road/mapping system. Therefore, Endo's "vehicle" is an aircraft as claimed.

a cursor control device (CCD) [Remote Controller 2] configured to accept input from a user;

a display computer [Navigation Controller 1] coupled [wireless] to said CCD and configured to process avionics data [GPS positioning data (position and heading)] and said input from said user, where said display computer is further coupled to a display [Display Unit 3] and at least one database [CD-ROM 4] including navigational data;

said display computer further configured to..." perform the method of claim 1 above, as claimed.

Referring to claim 3, the system and method of Endo as discussed above with regard to claim 1 discloses the invention as claimed. See Figure 4 and the corresponding portion of Endo's specification for this disclosure. Endo discloses the method of claim 1, as above, "further comprising the step of unifying [Image Synthesis 26] map [Map Picture from VRAM 14] and plan [Guide Route Drawing from 23] mode presentations into a virtual map" as claimed.

Referring to claim 8, the system and method of Endo as discussed above with regard to claim 2 discloses the invention as claimed. See Figure 3 and the corresponding portion of Endo's specification for this disclosure. Endo's CCD [Remote Controller] is a graphical user interface as claimed. See column 9, lines 14-29 for the details of this disclosure.

Referring to claim 9, the system and method of Endo as discussed above with regard to claim 2 discloses the invention as claimed. See Figures 13-16 and the corresponding portions of Endo's specification for this disclosure. Endo's display "is

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configured to display flight plan transitions [turns] as curved paths [See Figures 14A, 14D, 16A & 16D] from one flight leg [road] to the next" as claimed.

7. Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,212,132 to Yamane et al.

Referring to claim 1, Yamane discloses a system and method for displaying navigational information associated with an aircraft as claimed. See Figures 1, 3 & 13 and the corresponding portions of Yamane's specification for this disclosure. In particular, Yamane teaches "a method for navigational data associated with an aircraft"², said method comprising the steps of:

providing a database [Map Database 28] including navigational and flight planning data;

projecting and culling [Polygon Processing 30 (S1)] said database in real time in accordance with a defined map region;

creating a projected display database [Polygon Buffer 34];

modifying said display database [Geometric Conversion 40 (S2) and Rendering 42 (S3)] in accordance with avionics data [Parameters 38 and GPS Positioning 45] associated with said aircraft; and

displaying [on Display Unit 15] said display database in accordance with said modifying step."

² The examiner interprets Yamane's "ship" as an aircraft because the intended use of Yamane's navigational display apparatus is for any vehicle using radar navigation. Therefore, Yamane's "ship" is an aircraft as claimed.



Referring to claim 2, the system and method of Yamane as discussed above with regard to claim 1 discloses the invention as claimed. Again, see Figures 1, 3 & 13 and the corresponding portions of Yamane's specification for this disclosure. In particular, Yamane teaches "a display system comprising:

a cursor control device (CCD) [Input Device 27] configured to accept input from a user;

a display computer [10] coupled to said CCD and configured to process avionics data [GPS positioning data] and said input from said user, wherein said display computer is further coupled to a display [Display Unit 15] and at least one database [Map Database 28] including navigational data;

said display computer further configured to..." perform the method of claim 1 above, as claimed.

Referring to claim 4, the system and method of Yamane as discussed above with regard to claim 1 discloses the invention as claimed. See Figures 1 & 13 and the corresponding portions of Yamane's specification for this disclosure. Yamane teaches the method of claim 1, as above, "further comprising the step of simultaneously displaying [See Figure 13] at least two profiles [Radar Image Data and Map Image Data]" as claimed.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al (U.S. 6,453,235).

Referring to claim 1, Endo discloses a system and method for vehicle navigation as claimed. See Figures 1, 4 & 11-12 and the corresponding portions of Endo's specification for this disclosure. In particular, Endo teaches a method for navigational data associated with a vehicle, said method comprising the steps of:

providing a database ['map data base' on CD-ROM 4 (See column 8, lines 27-43)] including navigational data [map data] and route planning data [guide route];

projecting and culling [12 & 13] said database in real time in accordance with a defined map region [See column 9, lines 41-55];

creating a projected display database [VRAM 14];

modifying [Image Synthesis (26) of 23-25 & 27] said display database in accordance with location data [position & heading] associated with said vehicle [See columns 10-12]; and

displaying [on Display Unit 3] said display database in accordance with said modifying step [See column 10, lines 22-40].

The examiner allows that Endo does not explicitly disclose the vehicle as an aircraft as claimed. However, Endo's vehicle could be any vehicle navigating relative to a road network. The examiner takes Official notice that hovercraft and helicopters were vehicles (aircraft) of common knowledge in the art at the time the invention was made, and furthermore that it was common practice to navigate these low-flying aircraft relative to a road network (i.e. police helicopter chase of a car, traffic helicopters, normal usage of hovercraft).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to install Endo's vehicle navigation apparatus in a hovercraft or a helicopter to obtain the invention as claimed. One would have been motivated to do so in order to provide these low-flying aircraft with navigation ability relative to road networks.

Referring to claim 2, the system and method of Endo as discussed above with regard to claim 1 discloses the invention as claimed. Again, see Figures 1, 4 & 11-12 and the corresponding portions of Endo's specification for this disclosure. In particular, Endo teaches "a display system comprising:

a cursor control device (CCD) [Remote Controller 2] configured to accept input from a user;

a display computer [Navigation Controller 1] coupled [wireless] to said CCD and configured to process avionics data [GPS positioning data (position and heading)] and

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said input from said user, where said display computer is further coupled to a display [Display Unit 3] and at least one database [CD-ROM 4] including navigational data;

said display computer further configured to..." perform the method of claim 1 above, as claimed.

Referring to claim 3, the system and method of Endo as discussed above with regard to claim 1 discloses the invention as claimed. See Figure 4 and the corresponding portion of Endo's specification for this disclosure. Endo discloses the method of claim 1, as above, "further comprising the step of unifying [Image Synthesis 26] map [Map Picture from VRAM 14] and plan [Guide Route Drawing from 23] mode presentations into a virtual map" as claimed.

Referring to claim 8, the system and method of Endo as discussed above with regard to claim 2 discloses the invention as claimed. See Figure 3 and the corresponding portion of Endo's specification for this disclosure. Endo's CCD [Remote Controller] is a graphical user interface as claimed. See column 9, lines 14-29 for the details of this disclosure.

Referring to claim 9, the system and method of Endo as discussed above with regard to claim 2 discloses the invention as claimed. See Figures 13-16 and the corresponding portions of Endo's specification for this disclosure. Endo's display "is configured to display flight plan transitions [turns] as curved paths [See Figures 14A, 14D, 16A & 16D] from one flight leg [road] to the next" as claimed.

11. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane et al (U.S. 6,212,132).

Referring to claim 1, Yamane discloses a system and method for displaying navigational information associated with a vehicle as claimed. See Figures 1, 3 & 13 and the corresponding portions of Yamane's specification for this disclosure. In particular, Yamane teaches a method for navigational data associated with a vehicle, said method comprising the steps of:

- providing a database [Map Database 28] including navigational and route planning data;

- projecting and culling [Polygon Processing 30 (S1)] said database in real time in accordance with a defined map region;

- creating a projected display database [Polygon Buffer 34];

- modifying said display database [Geometric Conversion 40 (S2) and Rendering 42 (S3)] in accordance with positioning data [Parameters 38 and GPS Positioning 45] associated with said vehicle; and

- displaying [on Display Unit 15] said display database in accordance with said modifying step.

The examiner allows that Yamane does not explicitly disclose the vehicle as an aircraft as claimed. Yamane's navigation system is specifically applied to a 'ship' as disclosed. However, Yamane's 'ship' could potentially be any vehicle using radar to navigate relative to terrain and other surrounding objects. The examiner takes Official

notice that it was common practice in the art at the time the invention was made to use radar display, such as that of Yamane, in the navigation of an aircraft.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to install Yamane's radar display apparatus (of Figure 1) in an aircraft to obtain the invention as claimed. One would have been motivated to do so in order to provide the aircraft's pilots with a comprehensive display of both radar and mapping information.

Referring to claim 2, the system and method of Yamane as discussed above with regard to claim 1 discloses the invention as claimed. Again, see Figures 1, 3 & 13 and the corresponding portions of Yamane's specification for this disclosure. In particular, Yamane teaches "a display system comprising:

- a cursor control device (CCD) [Input Device 27] configured to accept input from a user;

- a display computer [10] coupled to said CCD and configured to process avionics data [GPS positioning data] and said input from said user, wherein said display computer is further coupled to a display [Display Unit 15] and at least one database [Map Database 28] including navigational data;

- said display computer further configured to..." perform the method of claim 1 above, as claimed.

Referring to claim 4, the system and method of Yamane as discussed above with regard to claim 1 discloses the invention as claimed. See Figures 1 & 13 and the corresponding portions of Yamane's specification for this disclosure. Yamane teaches

the method of claim 1, as above, "further comprising the step of simultaneously displaying [See Figure 13] at least two profiles [Radar Image Data and Map Image Data]" as claimed.

12. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,920,276 to Frederick in view of U.S. Patent No. 6,199,008 to Aratow et al.

Referring to claim 1, Frederick discloses a system and method for the display of navigational information associated with an aircraft as claimed. See Figures 1-3 & 6 and the corresponding portions of Frederick's specification for this disclosure. In particular, Frederick teaches a method for navigational data associated with an aircraft, said method comprising the steps of:

- providing a database [Nav Database 93 & Terrain Database 94] including navigational data and flight planning data;

- projecting ['converts the data to x, y coordinates for display' (Column 8, lines 35-50)] and culling ['retrieves such latitude and longitude addresses from' (Column 8, lines 35-50)] said database in accordance with a defined map region ['within a selected distance from the aircraft' (Column 8, lines 35-50)];

- creating a projected display database [Display RAM 95];

- modifying said display database [updates the data in Display RAM 95 and/or Display RAM 52 at the completion of the next sweep cycle (See column 5, lines 1-65 and column 7, line 17 et seq.)) in accordance with avionics data ['heading information,

aircraft position information, and track information' (Column 7, lines 27-67)] associated with said aircraft; and

displaying said display database ['the data from the display RAM 52...and the display RAM 95...produce on the cathode ray tube 56 a plan view image' (Column 8, lines 54-58)] in accordance with said modifying step.

Frederick does not explicitly state that the navigational database is projected and culled "in real time" as claimed.

Aratow discloses an aircraft navigation system and method similar to that of Frederick. See Figures 1-5 and the corresponding portions of Aratow's specification for this disclosure. In particular, Aratow teaches the importance of real-time calculation and display of navigational information "to allow increased situational awareness of the pilot and enhance display of possible dangerous conditions and prohibited procedures." (Column 1, lines 10-23)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frederick's calculations to be performed in real time as disclosed by Aratow. One would have been motivated to do so because of Aratow's disclosed need as provided above.

Referring to claim 3, the method of Frederick in view of Aratow as applied to claim 1 above discloses the invention as claimed. See Figures 1-3 and the corresponding portions of Frederick's specification for this disclosure. Frederick v. Aratow teaches the method of claim 1, as above, "further comprising the step of unifying

map [terrain data] and plan mode [plan view] presentations into a virtual map [See Figures 2 & 3]" as claimed.

Referring to claim 4, the method of Frederick in view of Aratow as applied to claim 1 above discloses the invention as claimed. See Figures 2 & 3 and the corresponding portions of Frederick's specification for this disclosure. Frederick v. Aratow teaches the method of claim 1, as above, "further comprising the step of simultaneously displaying at least two profiles [Fig. 2: front view 104 & plan view 108. Fig. 3: front view 204, left side view 222, right side view 221 & plan view 212]" as claimed.

Referring to claim 5, the method of Frederick in view of Aratow as applied to claim 1 above discloses the method as claimed. See Figures 1-3 & 6 and the corresponding portions of Frederick's specification for this disclosure. Frederick v. Aratow teaches the method of claim 1, as above, "further comprising the step of displaying a map from a variable perspective [See Figures 2 & 3 and the discussion regarding claim 4 above], wherein the angle of incidence between a pilot's view and earth's surface is set at an angle of less than ninety degrees [See Figure 6]" as claimed.

13. Claims 2 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederick (U.S. 5,920,276) in view of U.S. Patent No. 5,978,715 to Briffe et al.

Referring to claim 2, Frederick discloses a system and method for the display of navigational information associated with an aircraft as claimed. See Figures 1-3 & 6

and the corresponding portions of Frederick's specification for this disclosure. In particular, Frederick teaches a display system comprising:

- a plurality of control knobs [170, 174, 178, 180, etc. (See Figure 2)] configured to accept input from a user;

- a display computer [Figure 1] coupled to said plurality of control knobs and configured to process avionics data and said input from said user, wherein said display computer is further coupled to a display [CRT 56] and at least one database [Nav Database 93 and Terrain Database 94] including navigational data;

- said display computer further configured to:

- project ['converts the data to x, y coordinates for display' (Column 8, lines 35-50)]
 - and cull ['retrieves such latitude and longitude addresses from' (Column 8, lines 35-50)]
 - said database in accordance with a defined map region ['within a selected distance from the aircraft' (Column 8, lines 35-50)];

- create a projected display database [Display RAM 95];

- modify said display database [updates the data in Display RAM 95 and/or Display RAM 52 at the completion of the next sweep cycle (See column 5, lines 1-65 and column 7, line 17 et seq.)) in accordance with avionics data ['heading information, aircraft position information, and track information' (Column 7, lines 27-67)] associated with an aircraft; and

- display said display database ['the data from the display RAM 52...and the display RAM 95...produce on the cathode ray tube 56 a plan view image' (Column 8, lines 54-58)] in accordance with said modifying step.

Frederick does not expressly disclose “a cursor control device (CCD) configured to accept input from a user” as claimed. However, Frederick does disclose the plurality of control knobs, as described above, configured to accept input from a user. This provides suggestion for using any commonly used input device for the pilot to control the display computer.

Briffe discloses a system and method similar to that of Frederick. See Figures 1, 2 and 5 and the corresponding portions of the specification for this disclosure. Refer specifically to column 10, lines 34-43 for Briffe’s disclosure of a track-ball (44) or “other cursor control devices, such as a touch panel” for processing user input to control the display computer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Briffe’s track-ball, or any other commonly used cursor control device, to Frederick’s display computer system as a means of input to the system from the pilot. One would have been motivated to do so because this means of input would provide a more convenient input interface to the pilot than the plurality of knobs by consolidating the plurality of knobs into one, easy to manipulate input device.

Referring to claim 6, the system and method of Frederick in view of Briffe as applied to claim 2 above discloses the invention as claimed. See Figures 2 & 3 and the corresponding portions of Frederick’s specification for this disclosure. Frederick’s display computer is configured to display a map from a variable [changeable by pilot input] perspective [Fig. 2: front view 104 & plan view 108. Fig. 3: front view 204, left side view 222, right side view 221 & plan view 212] as claimed.

Referring to claim 7, the system and method of Frederick in view of Briffe as applied to claim 2 above discloses the invention as claimed. See Figures 2 & 3 and the corresponding portion of Frederick's specification for this disclosure. Frederick v. Briffe teaches the system of claim 2, as above, "further comprising a map of layered information [terrain data and radar data], wherein said layers are controllable via graphical interfaces [See Figure 2]" as claimed.

Referring to claim 8, the system and method of Frederick in view of Briffe as applied to claim 2 above discloses the invention as claimed. See column 10, lines 34-43 of Briffe's specification for this disclosure. Briffe's cursor control device, as added to Frederick's display computer in claim 2, is a graphical user interface [track-ball or touch panel] as claimed.

Referring to claim 9, the system and method of Frederick in view of Briffe as applied to claim 2 above discloses the invention as claimed. See Figures 5, 9 & 14 and the corresponding portions of Briffe's specification for this disclosure. Frederick does not explicitly disclose the display of flight plan transitions as curved paths from one flight leg to the next. However, Briffe does provide this disclosure in the bottom half of Figure 5, as well as Figures 9 & 14 and the corresponding portions of the specification. Therefore, in combining the teachings of Frederick and Briffe as above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure Frederick's display computer to include Briffe's functionality of displaying flight plan transitions as curved paths from one flight leg to the next. One would have been

motivated to do so in order to provide the pilot with a clear view of the plane's intended path over the displayed map terrain.

Response to Arguments

14. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

Referring to applicant's remarks on pages 4 and 5 regarding the rejection of claim 2 under 35 U.S.C. 112, Second Paragraph: Applicant's amendment to claim 2 does more particularly point out and distinctly claim the subject matter which applicants regard as their invention. Therefore, the rejection has been withdrawn.

Referring to applicant's remarks on pages 6 and 7 regarding the rejection of claims 1 and 2 under 35 U.S.C. 103: Applicants argued that no reasonable basis for combining the cited references has been presented, nor does a basis exist in the prior art cited.

Upon further review of the references, the examiner agrees that no basis for combining *Frederick* and *Sprague* can be found in the references themselves, nor does any suggestion or motivation for combining these two references exist. Therefore, the rejections have been withdrawn.

However, the examiner disagrees with applicant's argument that no reasonable basis for combining *Frederick* and *Briffe* exists. The motivation for combining these references has been provided in the new grounds of rejection above.

In response to applicant's argument that "these references are not in analogous art and would not be readily looked to by someone in the avionics industry" (page 7), it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Frederick and Briffe are related to aircraft navigation and display of aircraft navigational data, which is in the field of applicants endeavor.

Referring to applicant's remarks on pages 5 and 6 regarding the rejection of claims 1 and 2 under 35 U.S.C. 103: Applicants argued that the cited combinations of references fail to disclose each and every element of applicants claims 1 and/or 2 because none of the references explicitly or inferentially teach the steps of creating a projected display database and modifying said display database in accordance with avionics data associated with said aircraft.

The examiner disagrees for the following reasons:

Upon further consideration of the claims and the *Frederick* reference, the examiner has taken a broader interpretation of the claim language. Frederick's Display RAM is "a projected display database" as claimed because it is a database containing projected data to be displayed. See the discussion regarding claim 1 above under the new grounds of rejection. Furthermore, Frederick does teach the step of modifying said display database in accordance with avionics data associated with said aircraft. Frederick's display is constantly being refreshed/updated as the aircraft moves through

the sky and the radar continues to sweep and provide new data. Thus, after the projected display database is first created in the display RAM, it is modified according to the aircraft's new position, heading, etc. (avionics data) every time the aircraft moves and the radar sweep cycle completes in order to display the current surroundings of the aircraft. Therefore, with respect to time, Frederick's display database is modified in accordance with avionics data associated with said aircraft.

Finally, regarding applicant's remarks on page 6 regarding the rejection of claim 2 under 35 U.S.C. 103: Applicants argued that Briffe "fails to teach many of the elements of the pending claims, including the teaching of a CCD that is integrated into a display system for displaying overlaid navigational data on a terrain map."

Applicant is arguing against the references individually here. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, Briffe does teach a CCD that is integrated into a display system as shown above in the new grounds of rejection for claim 2.

Terminal Disclaimer

15. The terminal disclaimer filed on January 29, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,308,132 B1 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,047,227 to Henderson et al. and U.S. Patent No. 5,381,338 to Wysocki et al. are both considered particularly pertinent to applicants claimed invention and the background of applicants disclosure.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goddard whose telephone number is 703-305-7821. The examiner can normally be reached on M-F, 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

bdg
April 9, 2003


SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100